



EURO²

Services for Industry and Academia from the EuroCC Network of Competence Centres in HPC

Oriol Pineda (BSC & NCC Spain)

Carlos Teijeiro Barjas (SURF & NCC Netherlands)

Global overview

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Global overview

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European Commission

Global overview

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EuroHPC – Joint Undertaking
(EuroHPC/JU)

Global overview

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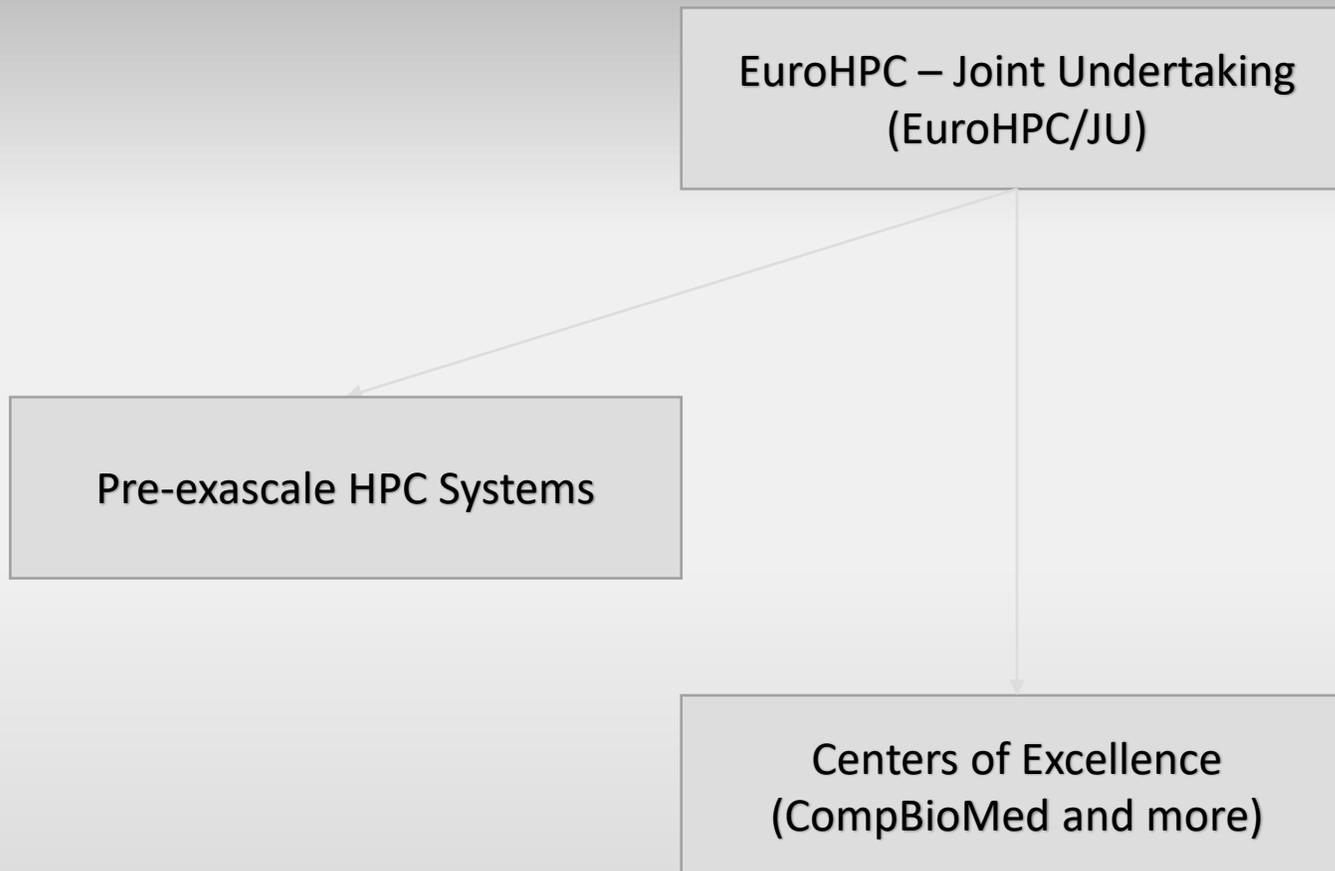
EuroHPC – Joint Undertaking
(EuroHPC/JU)

Pre-exascale HPC Systems



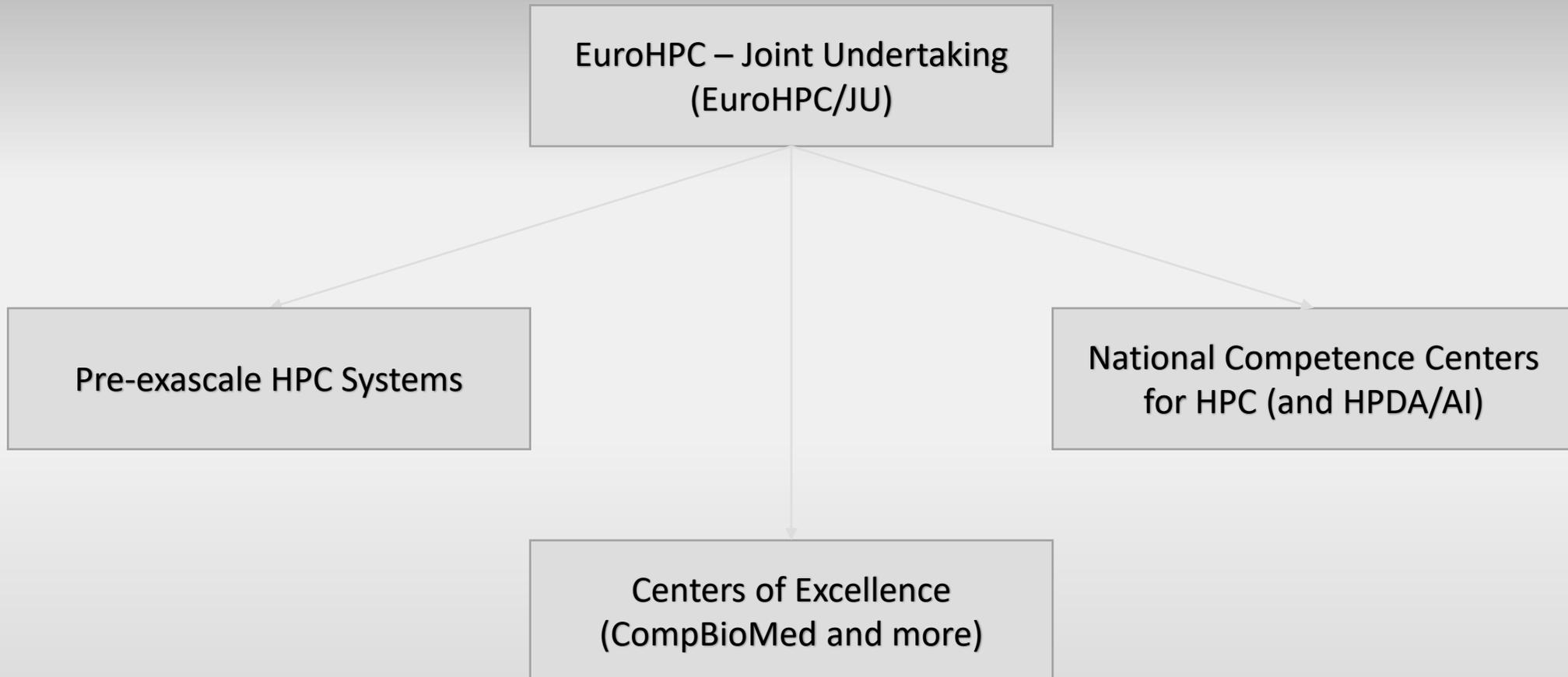
Global overview

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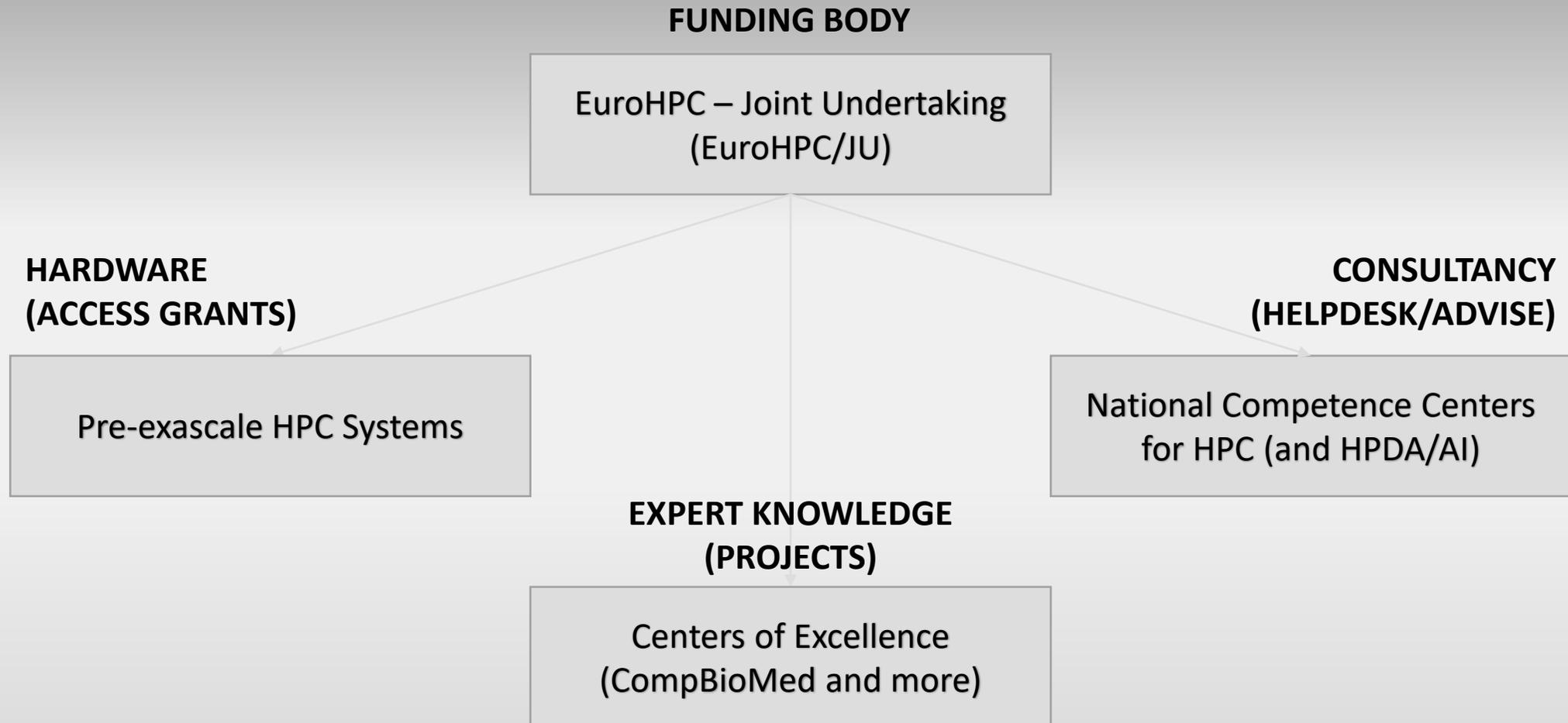
Global overview

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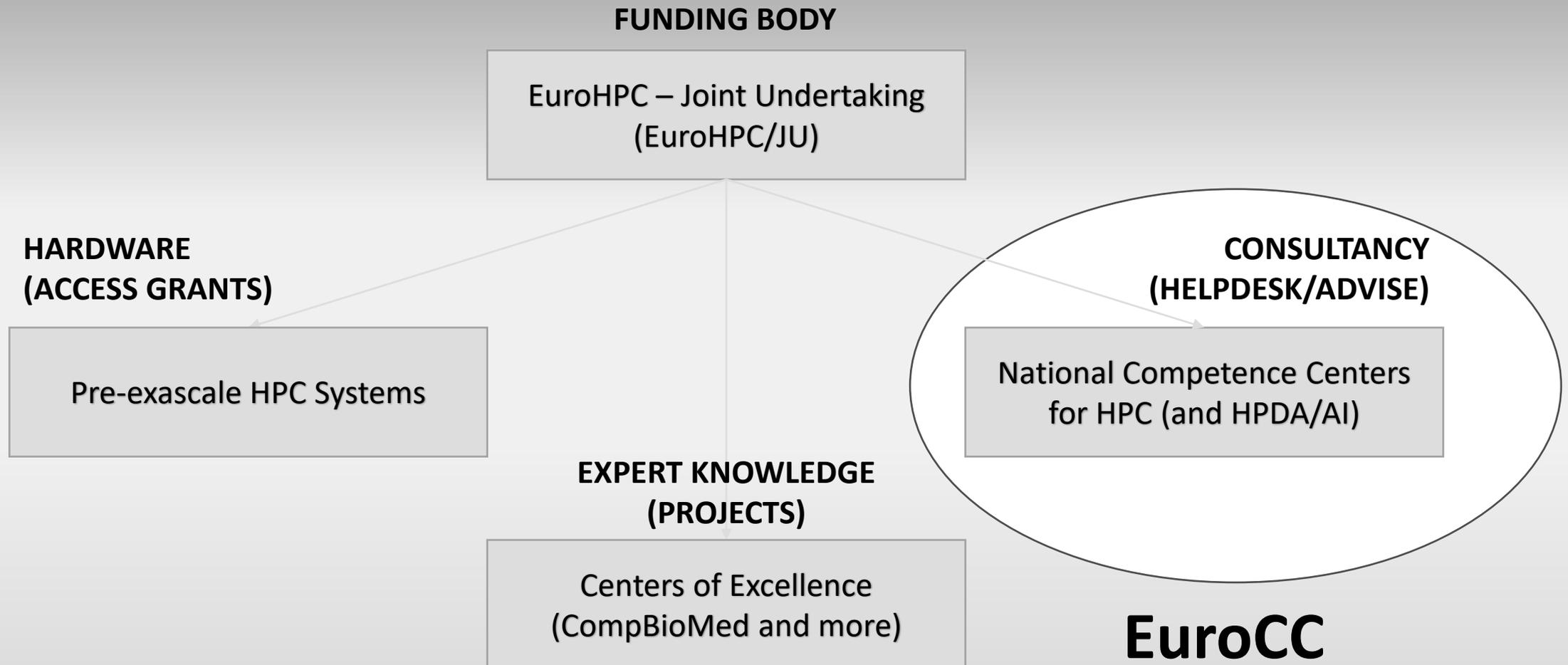
Global overview

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Global overview

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EuroCC and CASTIEL

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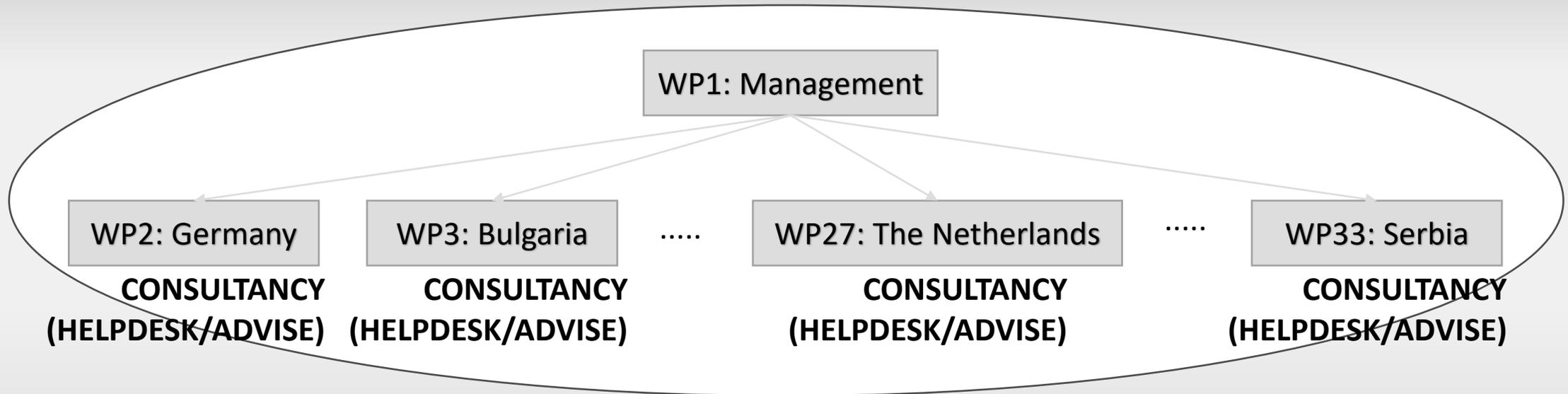
**CONSULTANCY
(HELPDESK/ADVISE)**

National Competence Centers
for HPC (and HPDA/AI)

EuroCC

EuroCC and CASTIEL

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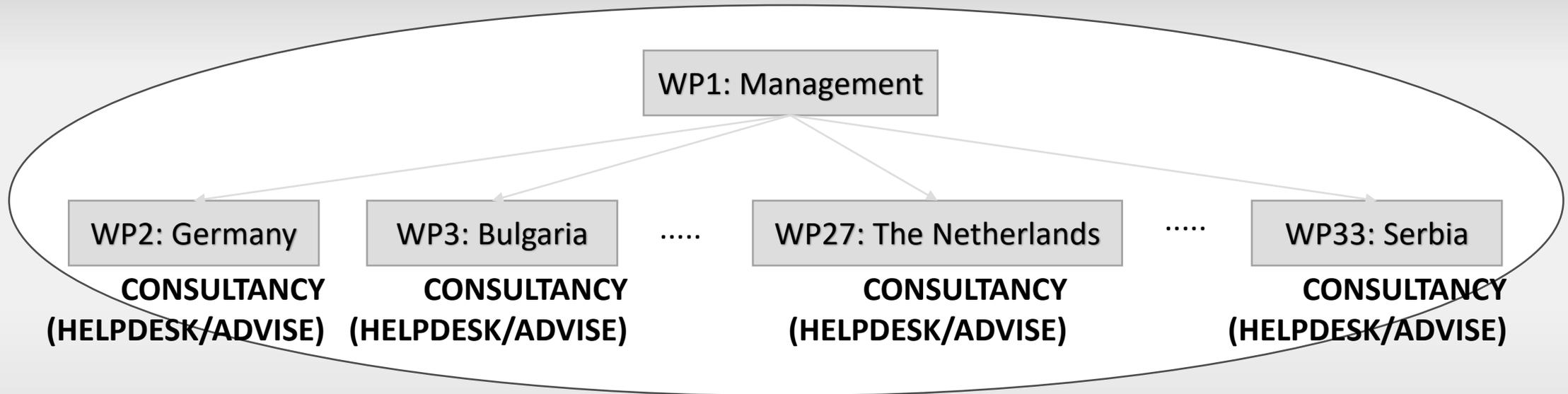
EuroCC

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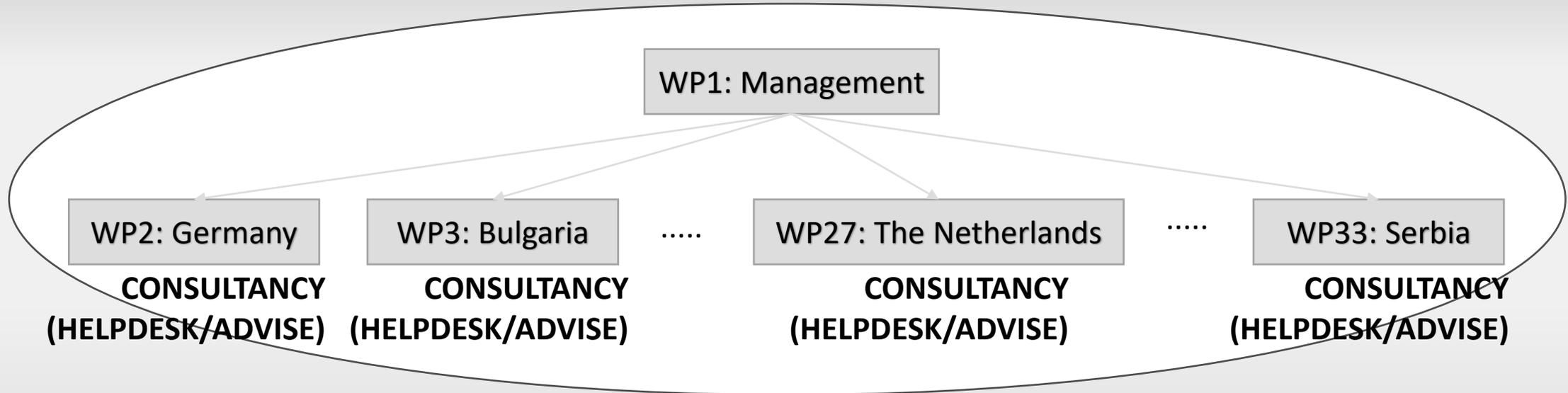
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- Competences
- Training
- Industry
- Communication

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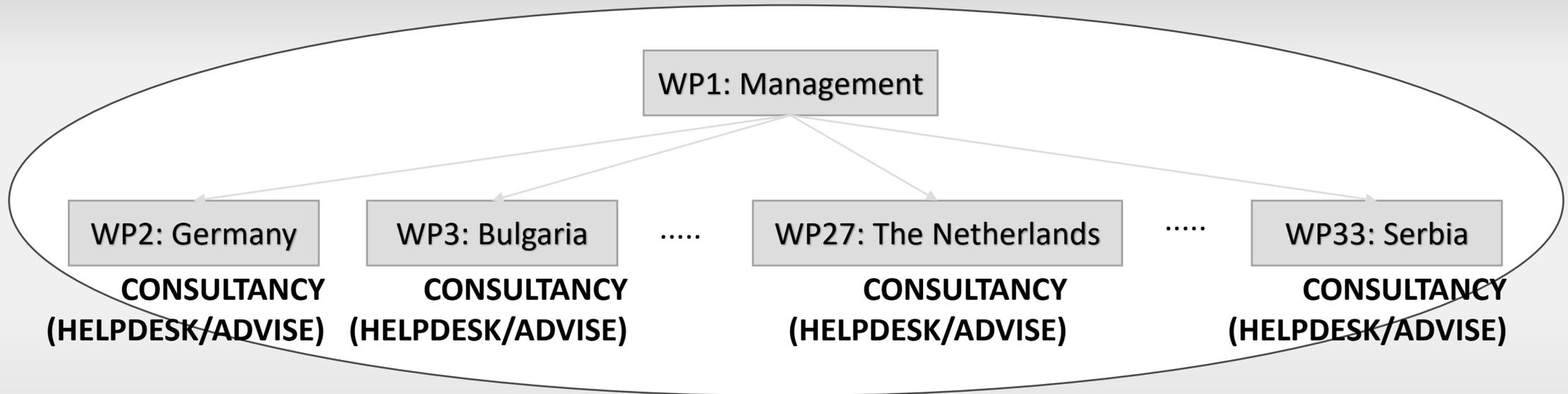
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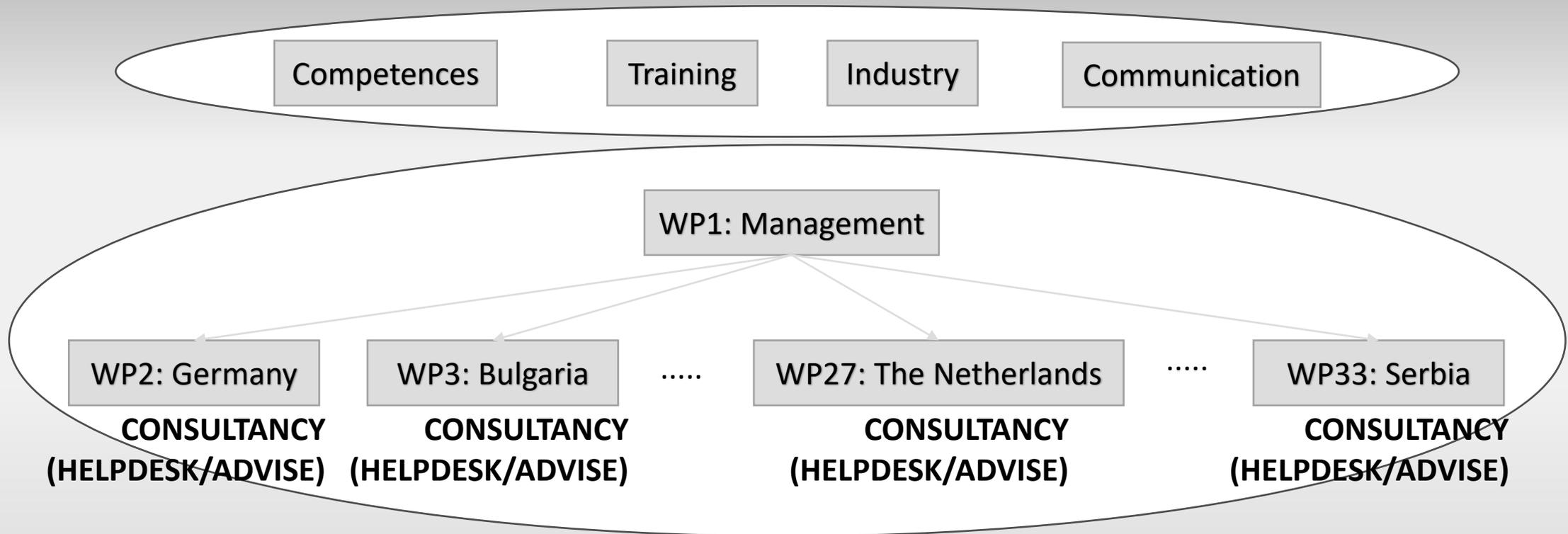
- Competences
- Training
- Industry
- Communication



EuroCC

EuroCC and CASTIEL

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UK and BIH "on hold" (only national funding)

CH left after EuroCC1 ☹️

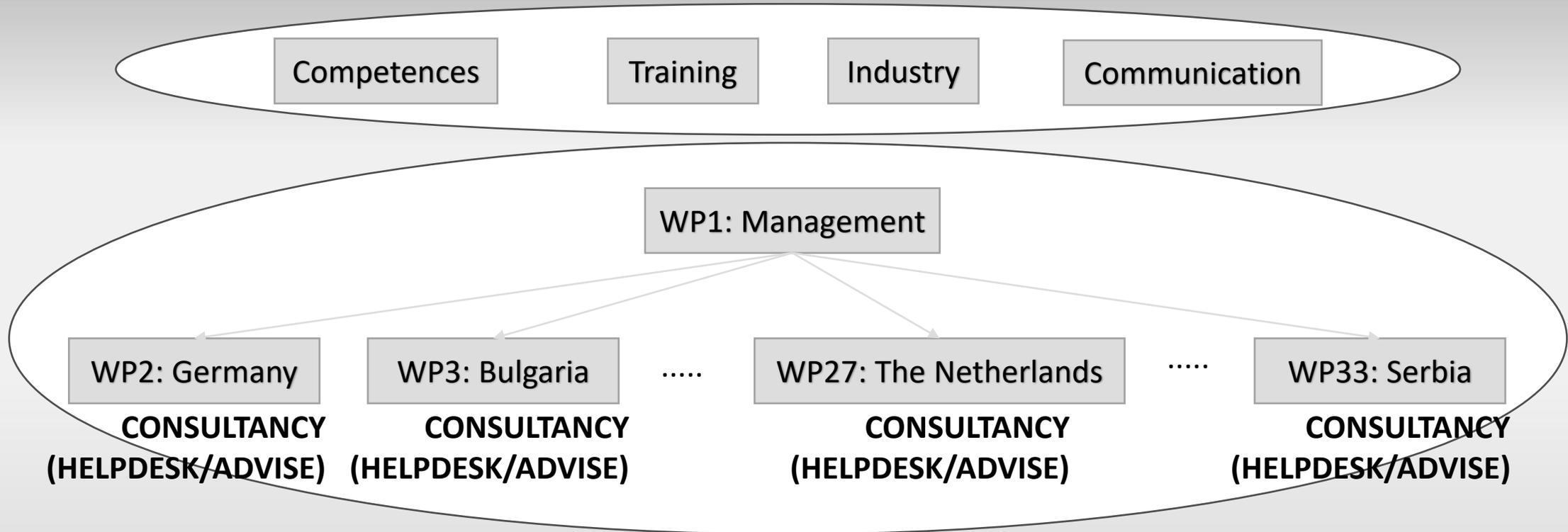
EuroCC

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CASTIEL



UK and BIH “on hold” (only national funding)

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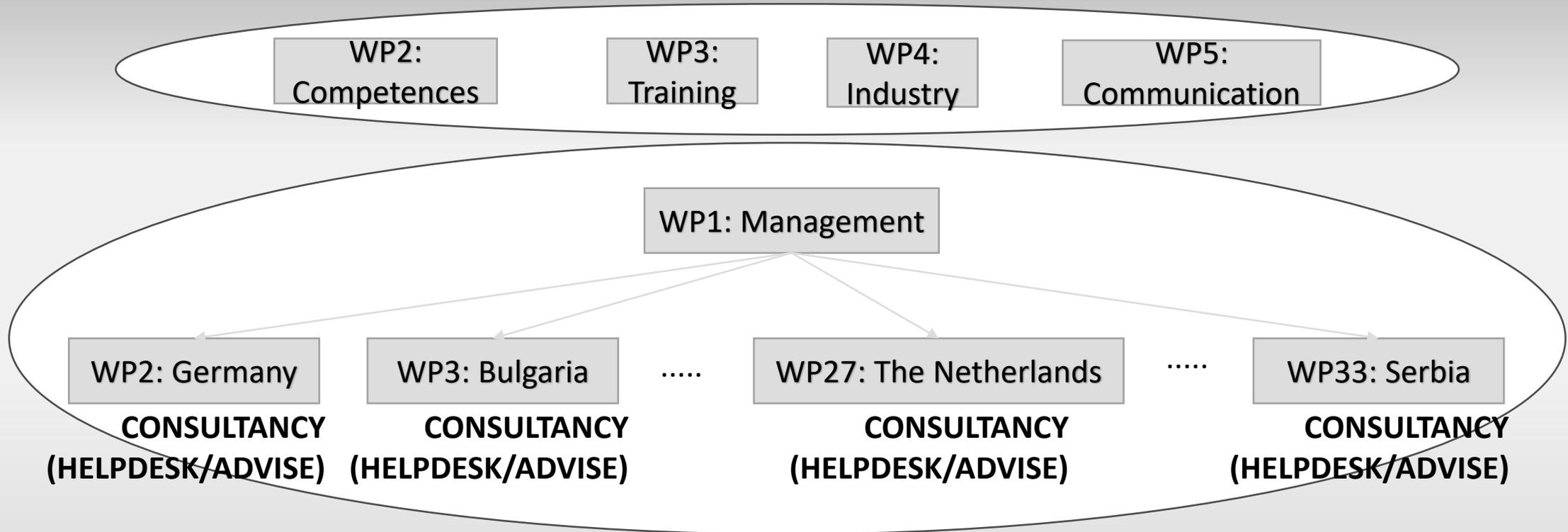
EuroCC

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CASTIEL



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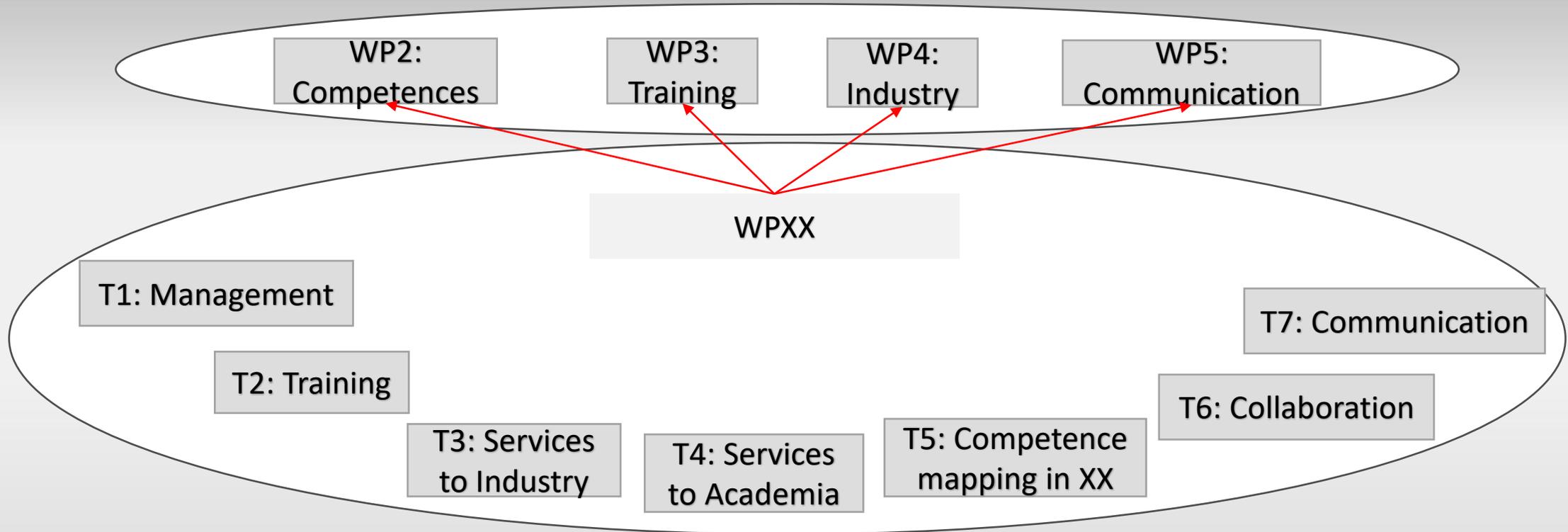
EuroCC

EuroCC and CASTIEL

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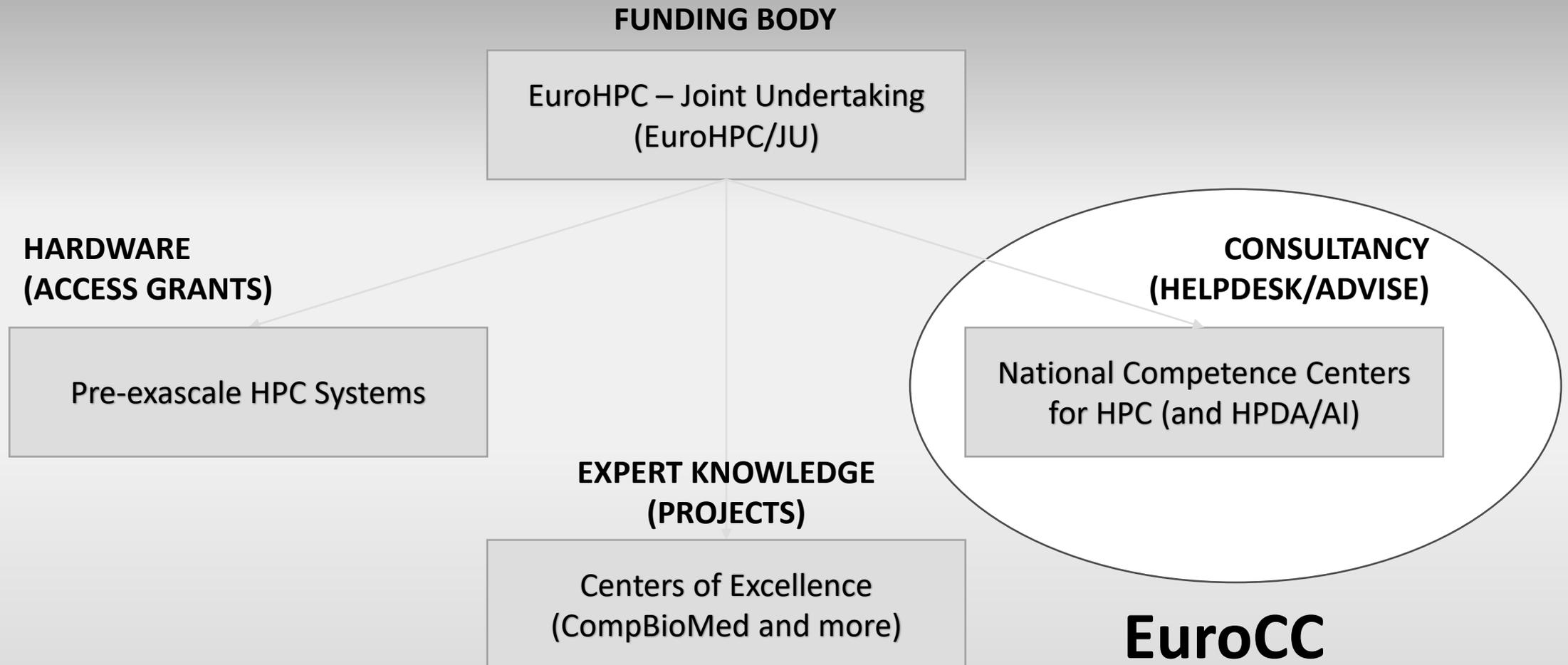
CASTIEL



EuroCC

Global overview

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Two examples of NCCs

Oriol Pineda, BSC



The screenshot shows the website for EuroCC Spain. At the top, there is a yellow header with contact information: a phone number (+34) 987 29 31 60, an email address eurocc@res.es, and social media icons for Twitter, LinkedIn, YouTube, and flags for the UK and Spain. Below the header is a white navigation bar with the EuroCC Spain logo and menu items: INICIO, SOPORTE A LA INNOVACIÓN, CASOS DE ÉXITO, NOSOTROS, BLOG, and FAQ. The main content area features a large image of server racks in a data center. Overlaid on this image is the text: 'PROYECTO EUROPEO', 'EuroCC_Spain', and 'Centro de Competencia (NCC) en Supercomputación (HPC), Big Data (HPDA) e Inteligencia Artificial (AI)'. A yellow button at the bottom of the image says 'VER VIDEOS CORPORATIVOS'.

The screenshot shows the website for EuroCC The Netherlands. At the top, there is a dark blue header with a navigation menu: HOME, SERVICES, OPEN CALL, TRAINING, NEWS, AGENDA, ABOUT, and CONTACT. Below the header is a large image of two women in blue lab coats working on a piece of equipment in a laboratory. Overlaid on this image is the text: 'EURO CC THE NETHERLANDS', 'THE NATIONAL COMPETENCE CENTER', and 'FOR HIGH PERFORMANCE COMPUTING'.

NCC organization

Oriol Pineda, BSC



Typical NCC display, tailored to country needs

Resource-based structure

- Access to HPC
- Knowledge base
- Training offer
- Support and consultancy

NCC organization

Oriol Pineda, BSC



Typical NCC display, tailored to country needs

Audience-based distribution

- Academic community
- Private sector
- Public administration

NCC organization

Oriol Pineda, BSC



NCC as an audience attractor

- Dedicated events
- Propotion of NCC services
- Promotion of related opportunities

NCC Spain: examples of work

Oriol Pineda, BSC



Collection of use cases

- Air quality and climate

The screenshot shows a video player interface. The video title is "The Bettair® platform". The main content is a promotional slide for the Bettair platform. The slide features a map of Barcelona with numerous blue dots representing sensor locations. The text on the slide includes: "Air Quality Mapping for cities with a large-scale deployment of **accurate devices without maintenance**", "High-resolution air quality maps", and "Hardware, Software and APP". The slide also shows icons for a target, a laptop, and a smartphone. At the bottom of the slide, there are images of two white sensor devices and a laptop displaying the mapping software. The video player controls at the bottom show a progress bar at 7:40 / 17:35.

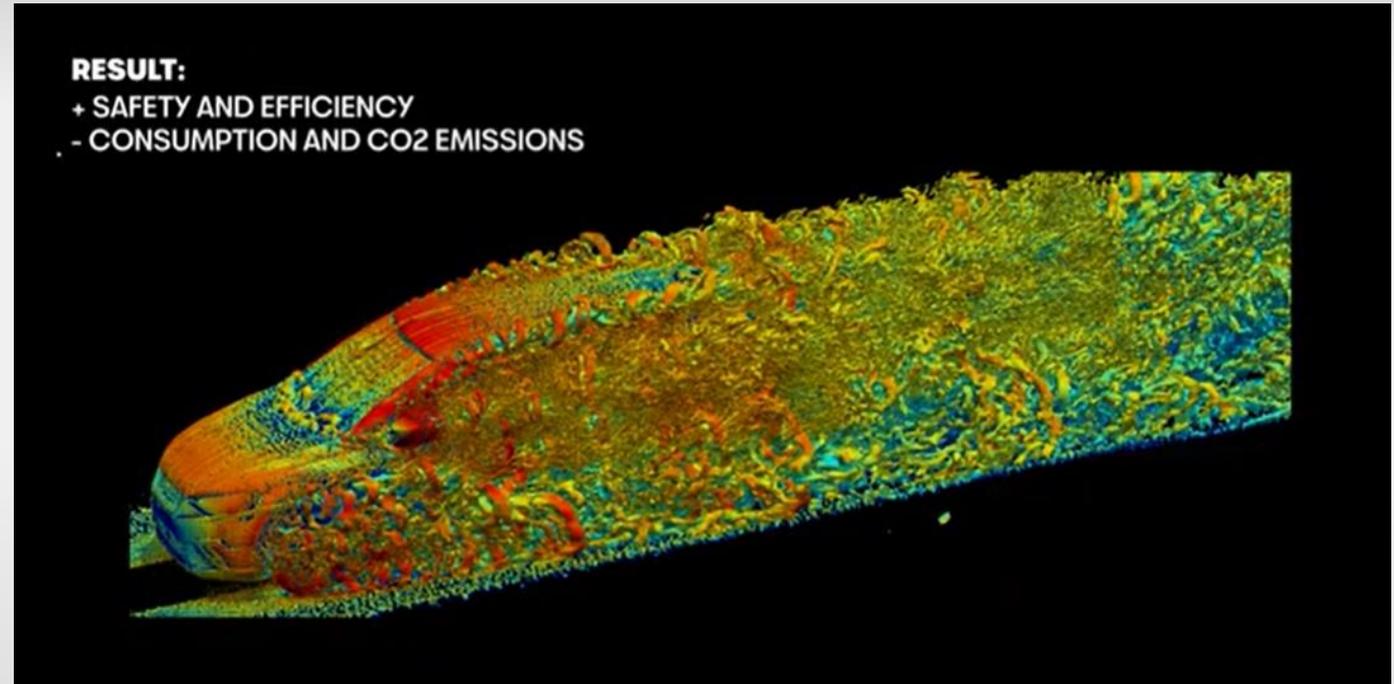
NCC Spain: examples of work

Oriol Pineda, BSC



Collection of use cases

- Air quality and climate
- Manufacturing



NCC Spain: examples of work

Oriol Pineda, BSC



Collection of use cases

- Air quality and climate
- Manufacturing
- Natural Hazards

Coming soon, hopefully

NCC Netherlands: examples of work

Carlos Teijeiro Barjas, SURF



Training activities

- Systems training (supported by the Dutch national computing facilities)
 - Introduction to Supercomputing (I,II,III) / Cloud / Data Management
- Skills training
 - Introduction to Deep Learning / High Performance Machine Learning
 - Parallel programming with MPI and OpenMP / GPU portability
- Open for academia, industry, public administrations... everyone!
- Computational support for training

NCC Netherlands: examples of work

Carlos Teijeiro Barjas, SURF



Federated HPC support in the Netherlands

- Contact group with all Tier-2 HPC centers in the country
- Discussion on different topics
 - Authentication
 - Software stack
 - Easy access to resources
 - Federated support via helpdesk
 - Workflow analysis and optimization
- Federated HPC workshop (6th November 2023)



NCC Netherlands: examples of work

Carlos Teijeiro Barjas, SURF



Collaboration between NCCs: success story with NCC Romania

Open Call

RO NCC and NL NCC offer the opportunity to the entities in the private sector to use high-level infrastructure in order to develop or test their applications and products.

Short description

The present call for proposals offers access to industry open R&D that requires large-scale resources or that requires more frequent access to substantial computing and storage resources providing computing hours based on the needs of each project. This access mode distributes resources from [Snellius supercomputer](#).

In addition, technical assistance will be provided in order to operate the Snellius infrastructure via requested meetings or regular [service desk consultation](#).



Thanks



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